

REMARKS

By this Reply, claims 1, 3, and 11 have been amended. Claims 5, 7-10, and 13-33 have been previously withdrawn from further consideration. Claim 6 has been previously canceled. Accordingly, claims 1-4 and 11-12 are currently pending in the application, of which claims 1, 3, and 11 are independent claims.

Applicants respectfully submit that the above amendments do not add new matter to the application and are fully supported by the specification. Support for the amendments may be found at least at paragraphs [0049] and [0050] of the specification.

In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. § 103

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. ___, slip op. at 14-15 (2007). Thus, even if the prior art may be combined, the references when combined must disclose or suggest all of the claim limitations. See *in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claims 1-3 and 11-12 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,506,635 issued to Yamazaki, *et al.* ("Yamazaki") in view of Japanese Patent No. 7-263705 issued to Kunii ("Kunii").

Applicants submit that Yamazaki and Kunii, alone or combined, fail to disclose every feature of claim 1 as amended. Claim 1 as amended recites, *inter alia*:

wherein ... the thin film transistor in the pixel array portion further comprises a first source/drain region directly contacting the first channel region, a second source/drain region directly contacting the second channel region, and an offset region, and

wherein the offset region directly contacts the first channel region and the second channel region and has a lower doping concentration than a doping concentration of the first source/drain region and a doping concentration of the second source/drain region. (emphasis added)

The examiner concurs that Yamazaki fails to disclose these features and looks to Kunii to remedy the shortcomings of Yamazaki. See Office Action, pages 2-3. Therein, the examiner claims that Kunii discloses in Fig. 1 "a first source/drain region 51 contacting the first channel region [61], [and] a second source/drain region 52 contacting the second channel region [62]." *Id.* (emphasis added). However, Kunii's first source/drain region 51 fails to directly contact the first channel region 61, and the second source/drain region 52 fails to directly contact the second channel region [62]

Rather, in Kunii, the first low density impurity region 71 "is interposed between the first high density impurity region 51 and the first channel region [61]." Additionally, a "second low density impurity region 72 is interposed between the second channel region 62 and the second high density impurity region 52." Kunii, Abstract (English translation provided as an attachment to Office Action); Fig. 1 (emphasis added). Accordingly, Kunii's first high density impurity region 51 is not "directly contacting" the first channel region 61, and Kunii's second high density impurity region 52 is not "directly contacting" the second channel region 62.

Similarly, Yamazaki's thin film transistor in the pixel unit shown in Yamazaki's Figs. 1-4 includes lightly-doped drain (LDD) regions 229 bordering each of the channel regions.

Thus, Yamazaki in view of Kunii fails to disclose the features of claim 1 recited above.

Moreover, even assuming *arguendo* that the first low density impurity region 71 and the second low density impurity region 72 of Kunii could be respectively characterized as the "first source/drain region" and the "second source/drain region" of claim 1, claim 1 recites that "the offset region ... has a lower doping concentration than a doping concentration of the first source/drain region and a doping concentration of the second source/drain region." (emphasis added). Since Kunii's intermediate region 8 "has the same ... impurity density as the first and the second low density impurity regions 71 and 72," Kunii would still fail to remedy the shortcomings of Yamazaki. Kunii, Abstract (English translation provided as an attachment to Office Action) (emphasis added).

For at least these reasons, Kunii fails to remedy the shortcomings of Yamazaki, and Yamazaki and Kunii, alone or combined, fail to disclose every feature of claim 1.

Further, for at least the reasons asserted above with respect to claim 1, Yamazaki and Kunii, alone or combined, fail to disclose every feature of independent claims 3 and 11.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yamazaki in view of Kunii, further in view of U.S. Patent Application Publication No. 2005/0247940 applied for by Shibata, *et al.* ("Shibata").

Applicants respectfully submit that claim 3 is allowable as amended over Yamazaki in view of Kunii, and Shibata fails to cure the deficiencies of Yamazaki in view of Kunii as noted above with regard to claim 3. Hence, claim 4 is allowable at least because it depends from an allowable base claim 3.

Claims 1-3 and 11-12 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent Application Publication No. 2003/0147018 applied for by Sano, *et al.* ("Sano") in view of Kunii.

In rejecting claims 1-3 and 11-12 here, the examiner again looks to Kunii to disclose the features as discussed above in the rejections based on Yamazaki in view of Kunii. Therefore, for at least the same reasons as those asserted by Applicants above, Kunii fails to remedy the identified shortcomings of Sano.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Sano in view of Kunii, further in view of Shibata.

Applicants respectfully submit that claim 3 as amended is allowable over Sano in view of Kunii, and Shibata fails to cure the deficiencies of Sano in view of Kunii as noted above with regard to claim 3. Hence, claim 4 is allowable at least because it depends from an allowable base claim 3.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1, 3, and 11. Claims 2, 4, and 12 respectively depend from claims 1, 3, and 11 and are allowable at least for this reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1, 3, and 11, and all the claims that depend therefrom, are allowable.

CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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